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TORREYA

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A NEW GENUS OF FOSSIL FAGACEAE FROM COLORADO*

By Arthur Hollick

Among the many beautifully preserved specimens of fossil plant remains from the Tertiary shales of Florissant, Colorado, sent to me for examination by Professor Theodore D. A. Cockerell, are the two here figured. They present the rare combination of leaves and fruit, the latter in different stages of development, attached to their respective branches, thus enabling us to identify the several parts as belonging to one and the same species.

Detached leaves of this species are abundantly represented in the shales, and years ago these were described and subsequently figured by Lesquereux under the name *Planera longifolia*;† but the correctness of their reference to this genus has generally been regarded as questionable by those who had occasion to critically examine them. The nervation of the leaves is not typical of *Planera*, and the characters of the fruit, now found unmistakably associated with them, demonstrate beyond question that the original generic identification was erroneous. In view of these circumstances it therefore becomes advisable to determine, if possible, the correct botanical affinities of the remains and to redescribe them in the light of our newly acquired information concerning them.

The fructification is, superficially, so strongly suggestive of the Fagaceae that it is difficult to resist the conviction that relationship at least with this family is clearly indicated, and the leaves

* Illustrated with the aid of the McManes fund.

† Sixth Ann. Rept. U. S. Geol. Surv. Terr. 1872: 371. 1873. Rept. U. S. Geol. Surv. Terr. 7 (Tert. Fl.): 189. *pl. 27. f. 4–6.* 1878.

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also are fagaceous in their general characters; but I have failed to make entirely satisfactory comparison with similar parts of species in any existing genus of the family; although several paleobotanical writers have referred certain fossil leaves more or less similar to ours in nervation and dentition to *Fagus* and *Castanea*.*

Taking all of these facts into consideration, therefore, the course which appears to be least open to objection is to regard the specimens as belonging to a species of an extinct fagaceous genus and to redescribe it under a new generic name.

Fagopsis longifolia (Lesq.) comb. nov.

Planera longifolia Lesq., Sixth Ann. Rept. U. S. Geol. Surv. Terr. **1872**: 371. 1873.

Fagus longifolia (Lesq.) Hollick and Cockerell, Bull. Amer. Mus. Nat. Hist. **24**: 88 (footnote). 1908.

General arrangement of growth of leaves and fruit on terminal branchlets similar to that of *Fagus Americana* Sweet; leaves

FIG. 1. *Fagopsis longifolia* (Lesq.) Hollick. Nat. size showing immature fruit.

* *Fagus dentata* Goepp. Paleontogr. **2**: 274. *pl. 24. f. 3.* 1852; Heer, Fl. Foss. Arct. 1: *pl. 10. f. 2, 7b, 9;* Gaudin and Strozzi, Mém. Gisem. Feuilles Foss. Toscane 1: *pl. 6. f. 5; pl. 7. f. 1.*

Fagus castaneaefolia Ung., Synops. Plant. Foss. 218. 1845; Chlor. Prot., 104, *pl. 28. f. 1.* 1847; Heer, *l. c., f. 7a, 8.* (= *Castanea castaneaefolia* (Ung.) Knowlton, Bull. U. S. Geol. Surv. No. 152, 60.) Etc.

elliptical-lanceolate in outline; margins coarsely and regularly crenate or bluntly dentate; nervation strictly craspedodrome, the secondary nerves almost parallel, each one terminating in the apex of a marginal dentition; fruit apparently single, on a

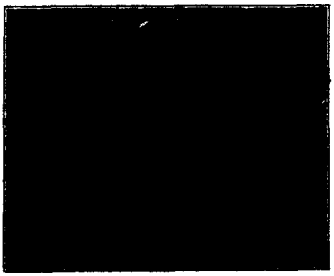

FIG. 2. *Fagopsis longifolia* (Lesq.) Hollick. Nat. size showing mature fruit.

stout, short peduncle, somewhat ovoid in shape and covered with spinous bracts when immature; globose, rough, and apparently destitute of bracts when mature.

Tertiary shales, station 14, Florissant, Colo., June, 1907.

Figure 1, specimen collected by Mrs. T. D. A. Cockerell. Figure 2, specimen collected by T. D. A. Cockerell.

Specimens in Museum N. Y. Bot. Gard.

NEW YORK BOTANICAL GARDEN

THE RUST OF TIMOTHY*

BY FRANK D. KERN

Timothy rust was reported from this country as early as 1881 or 1882 by Trelease in the Transactions of the Wisconsin Academy of Science† but it is only in very recent years that it has been found in sufficient abundance to attract much attention or to be the cause of any alarm. Except for this single report, rust on timothy has been so rare in this country that its previous existence might almost be questioned. In 1906 a fairly abundant amount was observed at one or two localities in New York, and in 1907 it was reported from Delaware, West Vir-

*Read before the Indiana Academy of Science at the Thanksgiving meeting, Purdue University, November 27, 1908.

†Preliminary List of Wisconsin Fungi, Trans. Wis. Acad. Sci. 7: 131. 1885.